

# Windows 8 runs with ARM: it is still arduous

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**System-wide designs on a chip (SoC) can change the look of mobile computing.**



If Windows 8 runs successfully on systems equipped with ARM processors, we can expect to see thin and light new devices. These new generation devices include ultra-thin laptops with impressive battery life, and tablets with large screens that are super light.

32-bit ARM processors have a fairly simple design compared to Intel's chips. This simplicity means they consume less power, helping to extend the time it takes to use the device with a battery - great for phones, tablets and even laptops. With licensed processor cores, chip makers produce their own SoC processors. ARM personnel are not new, but have long been used in embedded systems or handheld devices that do not run Microsoft Windows.

But that is changing, and the look of computing can change. At the new BUILD conference last week, Windows tablet models appeared with ARM processors.

The advantage of these SoC architectures is that they can be placed in very narrow places. This obviously affects the design of the device. For example, at the BUILD conference, the audience was really impressed with a 9-inch tablet model with an extremely slim, sturdy look, weighing less than 450g.

Besides space saving, ARM also has the advantage of consuming less power.

*' We don't see limits in design for ARM devices , ' said Steve Horton, software manager and product manager at Qualcomm. ' Their strength is that they can be used for many days, or the ability to make the device super thin and light . '*

ARM's energy-saving capabilities are the reason why chip makers even plan to bring ARM processors to the laptop-like flip designs. ARM is clearly targeted at phones and tablets, which ARM completely dominates with chips from Qualcomm and Nvidia.

But if Windows 8 goes well on systems equipped with ARM processors, consumers can see folding laptops that run on batteries for up to 15 hours.

Of course, once the tablet is flipped, its keyboard makes it difficult to distinguish a tablet from an ultraportable laptop. Some will use x86 chips, from manufacturers like Intel or AMD, and some ARM-based will run Windows 8, but will not be able to support older Windows applications. When ever, every application that will run smoothly on these systems is still unknown, because Microsoft only provides a little bit of dripping information at the last BUILD event.

No manufacturer has revealed how Windows runs on ARM to support existing applications.

*' We didn't think about it but didn't worry about it, ' said Qualcomm's Horton.*

Microsoft is also unclear about supporting older applications on ARM, but the company has demonstrated a version of Office running on the new Windows Metro interface.

## **Windows on ARM: what is needed**

Nvidia, Qualcomm, and Texas Instruments are all optimistic that the process of making ARM adapt to Windows will go smoothly. ARM architecture manufacturers representatives all noted that they need to add support for DirectX (if they are not already supported), but the process of preparing ARM to adapt to Windows is mostly about optimization. coding to work with SoC architecture.

*' The work has been going on for more than a year, ' said Deepu Talla, Texas Instruments' general manager of mobile and wireless computing. ' The only thing I can say is that we need to push the graphics processing speed higher. We need to make changes to graphics that support DirectX. And we made other optimizations with software '.*

It is likely that ARM chips will allow Windows 8 to function as smartphone-style.

For example, the show " **Connected On** " at the BUILD event last week. Connected On is a new energy reduction state of the system, not to the point of *"hibernating "*, allowing you to wake up the system immediately. In this state, the application pauses, but can still refresh the content in the background without much power. This paused state will even work with Qualcomm's 4G technology, which saves a significant amount of 4G pre-existing battery power.

There is only one design that we can clearly see in the form of ARM devices that will support Windows 8, that is: Microsoft requires hardware makers to focus on the 16: 9 screen, because The Metro interface is optimized so that two Metro-style applications can show up and run on one screen.

Finally, Talla of Texas Instruments as well as representatives of other ARM manufacturers have shared a view towards mobile computing, that is, the device must reach a battery life of 12 to 15 hours, whether it's a flip-flop design. tablet.

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